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PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

HUYNH, LOUIS K

ART UNIT

PAPER NUMBER

3721

DATE MAILED: 09/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

S.M.

Office Action Summary

Application No.

09/412,362

Applicant(s)

JENDICK, MANFRED

Examiner

Louis K. Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2002 and 08 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-82,90,91,93-96,98 and 99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-82,90,91,93-96,98 and 99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 31.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 99 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or rewrite the claim(s) in independent form. Claim 99 should be rewritten in an independent form for the claim is drawn to different scopes of invention, in particular to a can with a laser engraved tab, and is not further limiting the claim from which it depends.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 44, 63, 98 and 99 are rejected under 35 U.S.C. 102(e) as being anticipated by Stasiuk (6,105,806).

With respect to claim 44, Stasiuk discloses a method for of manufacturing articles to be included in can including the steps of: intermittently feeding a metal strip (tab stock 90) having an upper surface and a lower surface into an article forming unit (70); and providing an

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engravings using a laser unit (column 9, lines 21-51). Regarding the limitation of the metal strip being engraved in an immobilized condition, Stasiuk teaches that the metal strip (tab stock 90) must be correctly positioned then being engraved by the laser (column 9, lines 31-39) which implies that the metal strip is engraved while in an immobilized condition.

With respect to claim 98, the metal strip (90) does have a thickness defined between the upper surface and the lower surface. Regarding the limitation of the engravings extend into a metal portion of the metal strip to a depth that is within the thickness of the metal strip, since the laser unit disclosed by Stasiuk is capable of marking into the metal portion of the metal strip and uncoated metal is used in one of the preferred embodiment (column 3, lines 15-20), therefore, the engravings extend into the metal portion of the metal strip.

With respect to claims 99, Stasiuk discloses in Figure 1 a can (10) having a decorative pull tab (40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 44, 45, 56-57, 61-64, 74-76, 81, 82, 90, 91, 93-96, 98 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Stasiuk (6,105,806).

Kubacki et al. discloses an apparatus and a method of manufacturing opening tabs to be attached to ends of cans including the steps of: intermittently feeding (column 8, line 37-45) a

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metal strip (10) into a forming unit (column 4, lines 26-29) for forming opening tabs (Figure 1); and providing a marking (20) on a surface of the metal strip using a high speed stamping device controlled by a computer (column 5, line 66 – column 6, line 15). The method of Kubacki meets all of applicant's claimed subject matter but lacks the specific teaching of the marking being provided from a laser unit.

Stasiuk discloses an apparatus and a method of etching tab stock using a laser for marking (etching) a metal strip at high speed with precision (column 8, line 58-column 9, line 17) wherein the laser can be a high powered laser or a precision laser such as Nd:YAG (Neoderium Yttrium Aluminum Garnet) laser or a CO2 laser, and the laser can be positioned at any desirable location, online or offline for treating the tab stock (column 9, lines 52-56).

It would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have modified the apparatus and the method of Kubacki et al. by having used a laser unit, as taught by Stasiuk, in order to provide marking on the metal strip at high speed with precision since the laser can be used to mark different designs which would reduce the number of stamping devices required for marking different markings on the metal strip.

With respect to claims 45 and 64, Stasiuk teaches that the exact depth of the laser marking is obvious to a person with an ordinary skill in the art as a matter of engineering designed choice since the laser can be controlled to effect the speed of production (column 9, lines 4-13).

With respect to claims 57 and 76, Kubacki et al. disclose a recess (45) in cooperation with an elongated guide (46) for guiding the metal strip.

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With respect to claims 61, 62, 81 and 82, the articles to be included in cans are the pull tabs (11) having peripheral edge portions of each tabs bent inwardly (Figure 1) and an opening (16), wherein a marking (20) is provided on a surface between the opening and the peripheral edge portion of the tab.

With respect to claim 80, it would have been obvious to a person with an ordinary skill in the art to switch off the laser unit when markings are not needed.

With respect to claim 98, the metal strip (90) does have a thickness defined between the upper surface and the lower surface. Regarding the limitation of the engravings extend into a metal portion of the metal strip to a depth that is within the thickness of the metal strip, since the laser unit disclosed by Stasiuk is capable of marking into the metal portion of the metal strip and uncoated metal is used in one of the preferred embodiment (column 3, lines 15-20), therefore, the engravings extend into the metal portion of the metal strip.

With respect to claims 99, Stasiuk discloses in Figure 1 a can (10) having a decorative pull tab (40).

7. Claims 46-49 and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Stasiuk (6,105,806) as applied to claims 44 and 63 above, and further in view of Kwon (6,160,835).

The modified apparatus and method of Kubacki et al. using a laser unit of Stasiuk for marking metal strip meets all of applicant's claimed subject matter but lacks the specific teaching of the laser engravings being generated using a beam of laser radiation in the near IR (infrared) wavelength range.

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However, Kwon teaches a preferred method of laser engraving using a laser beam in the near IR wavelength range (col. 6, lines 44-56) for marking metal.

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have further modified the apparatus and method of Kubacki et al. by having generated a laser beam in the near IR wavelength range, as taught by Kwon, in order to mark the metal strip.

8. Claims 50-55 and 68-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Stasiuk (6,105,806), further in view of Kwon (6,160,835) as applied to claims 46 and 65 above, and further in view of Kobsa (6,163,010).

The apparatus and method of Kubacki et al. using the Nd:YAG laser of Stasiuk at an IR wavelength as taught by Kwon meets all of applicant's claimed subject matter but lacks the specific teaching of transmitting portions of the laser beam through a mode selection element in order to obtain suitable laser mode characteristics.

However, Kobsa discloses a laser system for laser cutting materials comprising: a diode laser pumped Nd:YAG; a laser cavity defined by two end mirrors; and optical elements for improving the laser beam quality; lens system for expanding, collimating, and focusing the laser beam; wherein the optical elements are for selecting modes such as TEM₀₀ (col. 2, line 48-59).

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have further modified the Miller et al. method an apparatus by having provided a diode laser pumped Nd:YAG laser system, as taught by Kobsa, so that the generated laser beam could be adjusted properly in order to mark high quality markings on the metal strip.

Note that the Kobsa diode pumped laser Nd:YAG laser system generates the laser beam in the form of pulsed laser radiation (col. 3, lines 15-67). Further, the Kobsa laser system operates with a wavelength of 1.064 mm (col. 3, line 67) which is substantially the IR wavelength.

9. Claims 58-60 and 77-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Stasiuk (6,105,806) as applied to claims 44 and 76 above, and further in view of JP'99 (JP 7-53099).

The modified apparatus and method of Kubacki et al. using a laser unit of Stasiuk for marking metal strip meets all of applicant's claimed subject matter but lacks the specific teaching of the guiding elements wherein one of the guiding elements is displaceable and is biased toward the metal strip.

However, JP'99 disclose a guiding system for a strip of material wherein the strip of material (2) is guided between guiding elements (21 and 22) and a cover (16) having openings (20) for print heads (4) to print on the strip of material, wherein one of the guide elements (22) is displaceable and is biased toward the strip of material (2) against the other guide element (21) for keeping the strip of material from fluctuating upward and/or sideways.

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time the invention was made, to have further modified the apparatus and method of Kubacki by having provide a guiding system having biasing guide element and cover, as taught by JP'99, in order to keep the metal strip from fluctuating upward and/or sideways since laser engraving required high precision placement of the work piece.

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10. Claims 44, 45, 56-57, 61-64, 74-76, 81, 82, 89-96 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Carlson (4,375,025).

Kubacki et al. disclose an apparatus and a method of manufacturing opening tabs to be attached to ends of cans including the steps of: intermittently feeding (column 8, line 37-45) a metal strip (10) into a forming unit (column 4, lines 26-29) for forming opening tabs (Figure 1); and providing a marking (20) on a surface of the metal strip using a high speed stamping device controlled by a computer (column 5, line 66 – column 6, line 15). The method of Kubacki meets all of applicant's claimed subject matter but lacks the specific teaching of the marking being provided from a laser unit.

Carlson discloses an apparatus and a method using a laser beam (32) produced from a laser source (29) known to a skilled person in the art for marking metal strip (column 2, lines 12-15) at high speed with precision (column 1, line 49-51).

It would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have modified the apparatus and the method of Kubacki et al. by having used a laser unit, as taught by Carlson, in order to provide marking on the metal strip at high speed with precision.

With respect to claims 45 and 64, the exact depth of the laser marking is obvious as a matter of engineering designed choice since it does not solve any stated problem and thus does not patentably distinguish from the applied prior art.

With respect to claims 57 and 76, Kubacki et al. disclose a recess (45) in cooperation with an elongated guide (46) for guiding the metal strip.

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With respect to claims 61, 62, 81 and 82, the articles to be included in cans are the pull tabs (11) having peripheral edge portions of each tabs bent inwardly (Figure 1) and an opening (16), wherein a marking (20) is provided on a surface between the opening and the peripheral edge portion of the tab.

With respect to claim 80, it would have been obvious to a person with an ordinary skill in the art to switch off the laser unit when markings are not needed.

With respect to claim 98, it would have been obvious to a person with an ordinary skill in the art to have controlled the laser beam intensity in order to achieve a desired depth of the marking extending into the metal portion of the metal strip.

11. Claims 46 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Carlson (4,375,025) as applied to claims 44 and 63 above, and further in view of Kwon (6,160,835).

The modified apparatus and method of Kubacki et al. using a laser unit of Carlson for marking metal strip meets all of applicant's claimed subject matter but lacks the specific teaching of the laser engravings being generated using a beam of laser radiation in the near IR (infrared) wavelength range.

However, Kwon teaches a preferred method of laser engraving using a laser beam in the near IR wavelength range (col. 6, lines 44-56) for marking metal.

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have further modified the apparatus and method of Kubacki et al. by having generated a laser beam in the near IR wavelength range, as taught by Kwon, in order to mark metal strip.

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12. Claims 47-55 and 66-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Carlson (4,375,025), further in view of Kwon as applied to claims 46 and 65 above, and further in view of Kobsa (6,163,010).

The apparatus and method of Kubacki et al. modified by Carlson and further modified by Kwon meets all of applicant's claimed subject matter but lacks the specific teaching of a diode laser pumped Nd:YAG laser.

Kobsa discloses a laser system for laser cutting materials comprising: a diode laser pumped Nd:YAG; a laser cavity defined by two end mirrors; and optical elements for improving the laser beam quality; lens system for expanding, collimating, and focusing the laser beam; wherein the optical elements are for selecting modes such as TEM₀₀ (col. 2, line 48-59).

It would have been obvious to a person with an ordinary skill in the art, at the time of the invention, to have further modified the method and apparatus of Kubacki et al. by having provided a diode laser pumped Nd:YAG laser system, as taught by Kobsa, so that the generated laser beam could be adjusted properly in order to mark high quality markings on the metal strip.

Note that the Kobsa diode pumped laser Nd:YAG laser system generates the laser beam in the form of pulsed laser radiation (col. 3, lines 15-67). Further, the Kobsa laser system operates with a wavelength of 1.064 mm (col. 3, line 67) which is substantially the IR wavelength.

13. Claims 58-60 and 77-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubacki et al. (4,476,781) in view of Carlson (4,375,025) as applied to claims 44 and 76 above, and further in view of JP'99 (JP 7-53099).

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The modified apparatus and method of Kubacki et al. using a laser unit of Stasiuk for marking metal strip meets all of applicant's claimed subject matter but lacks the specific teaching of the guiding elements wherein one of the guiding elements is displaceable and is biased toward the metal strip.

However, JP'99 disclose a guiding system for a strip of material wherein the strip of material (2) is guided between guiding elements (21 and 22) and a cover (16) having openings (20) for print heads (4) to print on the strip of material, wherein one of the guide elements (22) is displaceable and is biased toward the strip of material (2) against the other guide element (21) for keeping the strip of material from fluctuating upward and/or sideways.

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time the invention was made, to have further modified the apparatus and method of Kubacki by having provide a guiding system having biasing guide element and cover, as taught by JP'99, in order to keep the metal strip from fluctuating upward and/or sideways since laser engraving required high precision placement of the work piece.

Response to Arguments

14. Applicant's arguments filed June 06, 2002 (Paper No. 29) and July 08, 2002 (Paper No. 30) have been fully considered but they are not persuasive.

In response to applicant's argument with respect to claims 44 and 63 that the Stasiuk reference does not teach laser engraving metal and that it only teaches removal of a non-metal coating to expose the underlying metal, this is not found persuasive because the claims require the engravings being provided on the surface of the metal strip and the Stasiuk reference does teach that the laser markings are provided on the surface of metal strip (90) and thus anticipates

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the claimed invention. Furthermore, Stasiuk discloses that the metal strip is either uncoated or coated (column 3, lines 15-20) and the markings are provided preferably by a laser (column 8, lines 58-61); therefore, one with an ordinary skill in the art understands that using laser to provide a marking on an uncoated metal strip is to remove a portion of the metal on the surface of the metal strip by the laser.

Moreover, applicant contends that Kubacki and Carlson are directed to non-analogous arts because 1) they are not from the same field of endeavor, and 2) they are not directed to solving the problems that are solved by the present application.

In response to applicant's argument that Kubacki and Carlson are directed to non-analogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the art of laser engraving is considered to be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention.

In response to applicant's argument that Kubacki and Carlson are not directed to solving the problems that are solved by the present application, Carlson teaches a system for marking continuously moving electrical components and Kubacki teaches stamping beverage cans during an immobilized condition, Carlson teaches the use of a laser system for marking on a work piece and the laser system itself is operable whether or not the work piece is in an immobilized condition.

Furthermore, when applying a laser system for marking articles to be included in cans in an on-line process, a metal strip is intermittently fed through a plurality of work stations; such as stamping, cutting, punching, etc. and including a laser engraving station; in order to form the articles. Although the laser system is capable of marking the work piece while the work piece is moving, it is obvious to a person with an ordinary skill in the art to realize that marking a work piece while it is in an immobilized condition due to intermittently feeding would result in a better quality of the markings than if the work piece in on the move. Therefore, it is reasonable and obvious to a person with an ordinary skill in the art to combine the teachings of Kubacki and Carlson.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis K. Huynh whose telephone number is (703) 306-5694.

The examiner can normally be reached on M-F from 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on (703) 308-2187. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 308-7769 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

LH
September 13, 2002



Stephen F. Gerrity
Primary Examiner